ANALYSIS OF LONG-TERM REVENUE IMPACTS OF THE PRESIDENT'S TAX REFORM PLAN

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INTRODUCTION

One major goal of the President's tax plan is revenue neutrality, which means that the plan is intended to raise about the same revenues as projected under current law from 1986 through 1990. The estimates supplied by the Department of the Treasury show that the President's plan would be approximately revenue neutral over that five-year time span. The Treasury estimates that the difference in overall revenues between the proposal and current law would be $11.5 billion over the 1986 to 1990 period. This difference in revenues from the entire proposal (less than 0.5 percent of total revenue over the five-year period) is clearly insignificant from an estimating standpoint.

The Treasury Department revenue estimates show that the taxes paid by corporations would increase and those paid by individuals would decrease. In 1990, the Treasury estimates that corporate income taxes would rise by $25.2 billion (22.7 percent), and individual income taxes would decline by $26.9 billion (5.2 percent). Over the five-year period from 1986 through 1990, corporate revenues are estimated to rise by $118.4 billion (24.4 percent), while individual revenues would fall by $131.8 billion (6 percent).[1] Because of this apparent shift in taxation from individuals to corporations, apprehension has arisen that the new tax system would hurt capital formation and reduce the growth in the economy.

Revenue Estimates and Revenue Neutrality

The type of revenue estimates used in discussions of tax reform and revenue neutrality are static five-year cash-flow revenue projections. Although these revenue projections are an important part of the budgetary process, they do not account for the full effects of many tax changes. Two important limitations to cash-flow revenue estimates are that they are restricted in their time horizon and that they do not reflect changes in future tax deferrals over time. Because the long-run revenue potential of any new tax system can differ significantly from its short-run revenue effect, limiting the estimation period to five years may provide a misleading indication of a new system's revenue potential and its allocation of tax payments between corporations and individuals. This is especially true if provisions are phased in (or due to expire) during the first five years.

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[1] The Treasury Department also asserts that "when fully effective, the President's proposals would raise total corporate tax payments by an estimated 9 percent, and would lower total individual tax payments by 7 percent." The term "fully effective" is not defined. This would appear to be inconsistent with long-run neutrality because individual receipts under current law are almost five times greater than corporate receipts. See The President's Tax Proposals to the Congress for Fairness, Growth, and Simplicity.

A second limitation of the five-year cash-flow estimates is that they ignore the effect of changes in tax deferrals beyond the five-year period. A tax deferral is a future tax liability that results from current actions. For example, depositing $2,000 in an Individual Retirement Account (IRA) results in a tax deduction this year and a concomitant future tax obligation (deferral) when those funds are withdrawn. Where tax provisions affect tax liabilities in the future, it is important to look not only at current tax effects, but at those future tax changes as well. In the case of tax deferrals, the present value of a tax change provides useful information about the long-run tax burden that it is likely to impose. The present-value effect also indicates the change that is likely to occur in investment incentives. In order to measure the present value of a tax change, it is often necessary to extend one's time horizon well beyond the conventional five-year time span.

In this study, the Congressional Budget Office (CBO) analyzes the revenue effects of several major corporate income tax provisions included in the President's tax plan. Provisions analyzed here include (among others) the proposed changes in the system of tax depreciation, the investment tax credit (ITC), and the maximum corporate tax rate. These provisions have large revenue effects in 1990; the Treasury estimates that the change in depreciation will raise $21.2 billion in 1990, repealing the investment tax credit will raise $44.6 billion, and corporate rate reduction will reduce revenues by $42.0 billion in that year.[2] The addition of a 10 percent dividends-paid deduction is estimated to lower revenues by $6.7 billion in 1990.

With the notable exception of the change in depreciation rules, the revenue estimates for these provisions probably provide a fairly accurate account of their longer-run revenue effects relative to GNP since they are immediately phased in and do not give rise to future tax deferrals. The depreciation rule changes, however, do have significant effects on revenues well after 1990 and affect the long-run revenue potential of the proposed tax system. Therefore, the short-run revenue effects associated with the depreciation changes may provide a misleading indication of the future revenues and investment incentives to be generated from such changes. These future revenue effects are the focus of this paper.

Other Revenue Provisions

Other provisions of the President's tax plan have major effects on federal revenues. Among these are the rate cuts for individuals (-$72.7 billion in 1990; -$260.6 billion in 1986-1990), the change in the personal exemption (-$48.0 billion in 1990; -$193.1 billion in 1986-1990), the repeal of the

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[2] The President's Tax Proposals to The Congress for Fairness, Simplicity, and Growth, Appendix C. The rate reduction revenue estimates are calculated assuming enactment of many other base-broadening provisions, in addition to the ones considered here.

deduction for state and local taxes (+$40.0 billion in 1990; +$148.9 billion in 1986-1990), the repeal of income averaging (+$4.9 billion in 1990; +$8.7 billion in 1986-1990), and the repeal of the second earner deduction (+$9.0 billion in 1990; +$33.7 billion in 1986-1990). The President's proposal also includes a recapture of the rate reduction on accelerated depreciation that is estimated to raise $57.6 billion over the 1986-1989 period, but would have no long-run revenue effect. In general, these provisions result in straightforward tax changes and do not involve long phase-in periods or changes in future taxes; their long-run revenue effects (relative to GNP) are likely to be approximated by their 1990 effects.

There are, however, several other major provisions for which the five year and 1990 revenue estimates may be misleading as to their longer-term revenue effect. These include the matching of income and expense for multi-period production (+$14.1 billion in 1990; +$44.0 billion in 1986-1990), the changes in the rules regarding the taxation of capital gains (+$5.4 billion in 1990; +$18.5 billion in 1986-1990), the elimination of private-purpose bonds (+$4.5 billion in 1990; +$13.0 billion in 1986-1990), taxation of some health insurance benefits (+$4.0 billion in 1990; +$17.4 billion in 1986-1990), and tax changes regarding retirement saving (+$5.8 in 1990; +$20.6 billion in 1986-1990). The 1990 revenue estimates for these provisions may be significantly different from their long-term revenue effects, relative to GNP. The potential long-run revenue effects from these and other major tax provisions are further discussed in the last section of this paper.

Supplemental Estimates of Corporate Tax Provisions

Two sets of supplementary revenue estimates are presented in this paper. The first set looks at the 20-year effects of corporate tax provisions on the taxation of income from a fixed composite corporate investment undertaken today. The second set of estimates extends the time horizon from 5 to 15 years and examines the profile of the cash-flow revenue estimates of the general corporate tax provisions. This second set of estimates is based on aggregate gross corporate investment and includes the effect of the growing level of corporate investment over time.

The basic results of this study indicate that the general corporate provisions included in the President's tax plan (depreciation rule changes, the investment tax credit, the corporate rate cut, and the partial dividend deduction) will probably reduce the tax burden on income earned in the corporate sector in the long run. Compared with current law, this means that the overall effect of these general provisions related to taxing corporations probably provide a tax cut over time. The President's tax proposal may still raise taxes paid by the corporate sector (compared with current law) in the long run because there are many base broadening provisions that affect selected industries, such as oil and gas production, defense contracting, or financial services. However, the longer-run revenue potential of the system as a share of GNP is likely to be much less

than would be shown by a simple extrapolation of five-year revenue estimates to future years.

ACCOUNTING FOR TAX DEFERRALS

In those instances where a tax code change results in contingent future tax changes, and these contingent liabilities are ignored, cash-flow revenue estimates may not accurately reflect the long-run revenue effect of the change. In these cases, revenue estimates based on the concept of present value may be a better measure of the full revenue cost to the Treasury because they account for all current and future tax deductions and payments. (Present value revenue estimates could be a useful supplement to the traditional five-year revenue estimates that are required as part of the annual federal government budget process.)

Depreciation and Timing

Because depreciation by its nature deals with the timing of deductions for capitalized expenditures, the evaluation of the full stream of deductions--not just the first five years--is necessary to measure the relative generosity of alternative depreciation systems. In addition, because depreciation rules affect most businesses and the President's plan calls for a basic overhaul of the current system of depreciation, a proper evaluation of the long-run effects of these changes is of utmost importance.

Consider, for example, a firm that decides to invest in a machine that makes steel belted radial tires. The machine produces 100 tires per year for 10 years and then is retired. The machine earns a profit of $30 per tire in the first year. Because of increased operating costs and more intense competition from newer and more efficient machines, however, the profit per tire goes down by 10 percent each year. For simplicity, it is assumed that there is no price inflation. The machine is placed in service midway through the first tax year. Table 1 displays the output and revenue stream for the machine over time.

Under current law, the machine is considered five-year property under the Accelerated Cost Recovery System (ACRS). The deductions for depreciation are shown in the fourth column of the table; the tax payments under ACRS are shown in the fifth column.[3] The depreciable basis for the machine

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[3] Under current law, the machine would also be eligible for the investment tax credit along with its requirement for a 50 percent basis adjustment. In this example used here, only the effect of the depreciation schedule is shown--the investment credit and basis adjustment are not taken into account. In the full simulations presented below, both these provisions are included.

TABLE 1. CALCULATION OF TAXES UNDER ACRS AND ECONOMIC DEPRECIATION (In dollars)

Year	Output (tires per year) (1)	Net Revenue Per Tire (2)	Annual Net Revenue (3)	Depreciation Under ACRS (4)	Tax[a] (5)	Economic Depreciation[b] (6)	Tax (7)	Tax Change (8)	Cumulative Tax Change (9)
1	50	30	1,500	1,968	-215	582	422	637	637
2	100	27	2,700	2,886	-85	1,823	404	489	1,127
3	100	24	2,430	2,755	-149	1,680	345	494	1,621
4	100	22	2,187	2,755	-261	1,555	291	552	2,173
5	100	20	1,968	2,755	-362	1,445	241	603	2,775
6	100	18	1,771	0	815	1,349	194	-621	2,155
7	100	16	1,594	0	733	1,266	151	-583	1,572
8	100	14	1,435	0	660	1,196	110	-550	1,022
9	100	13	1,291	0	594	1,136	72	-522	500
10	100	12	1,162	0	535	1,086	35	-500	0
Sum:			18,040	13,117	2,264	13,117	2,264	0	
Present Value:[c]					1,436		1,916	479	
Effective Tax Rate:					34%		46%		

SOURCE: Congressional Budget Office.

a. Does not take into account the investment tax credit allowed under current law.

b. Economic depreciation is defined as the change in the market value of the machine over time. The market value of the machine at any point in time is the present value of its remaining net revenue stream.

c. Discounted at the after-tax return of 4.6 percent calculated under ACRS.

is $13,117 and is the machine's original acquisition cost. This cost is derived by assuming it equals the present value of the machine's expected revenue stream over its entire life. The revenue stream (column three) is discounted at 7 percent to arrive at the machine's acquisition cost.

The tax payments under ACRS are negative in the first five years. This reflects the fact that the ACRS schedule is accelerated and allows companies to earn deductions in excess of economic income in the first few years of the asset's life. (The investment credit is ignored in this example.) Starting in the sixth year, the firm starts paying tax on the income from the machine since ACRS deductions have been exhausted. In effect, the company pays higher taxes in these years to "pay off" the tax saving it accrued over the first five years. In this example, the tax reduces the after-tax rate of return to 4.6 percent. The present value of tax payments (discounted at 4.6 percent) is $1,436 and the effective tax rate on the asset is 34 percent.[4]

Now, suppose the tax law is changed to allow only economic depreciation for tax purposes.[5] The deductions under economic depreciation are shown in column six of the table; the new stream of tax payments under economic depreciation is shown in column seven. The new present value of tax payments is $1,916 and the effective tax rate on the asset is the statutory rate of 46 percent.

Under the new depreciation policy, the sum of tax payments has not changed, equaling $2,264 in each case. The present value of the taxes under economic depreciation is $479 greater than under ACRS because the timing of the payments has been shifted forward. Because a dollar is worth more now than in the future, the change to the less accelerated depreciation system raises the present value of future tax payments.

In a year-by-year comparison, the change would result in a tax increase in each of the first five years and a tax decrease in each of the next five years. In the first year, the depreciation change would result in a tax increase of $637. By the fifth year, the cumulative tax increase would be $2,775--the amount that revenue estimators would record as the five-year change in taxes for this particular asset. In the tire machine example, the five-year estimate takes no account of the fact that an equivalent tax decrease will occur in the subsequent five years. The result: a five-year estimate ($2,775) that records a tax increase almost six times larger than the present value amount ($479). In other words, the five-year cumulative

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[4] The effective tax rate is the difference between the pretax rate of return and the after-tax rate of return divided by the pretax rate of return.

[5] Economic depreciation provides an interesting illustrative case because it delays depreciation deductions, compared to current law, but keeps the total amount unchanged. Therefore, tax payments on the return to any single investment are not changed in their amount, but only in their timing.

revenue effect exceeds the present value revenue increase by a factor of about six.

Five-year cash-flow estimates may provide an incomplete view of the financial implications of the tax changes that involve future revenue effects. Unlike tax provisions that do not give rise to tax deferrals, the five-year cash-flow tax increases due to a deceleration of depreciation deductions are associated with tax reductions in future years. On a per dollar basis, current tax increases that do not involve future tax reductions are worth much more to the Treasury in terms of increased revenues than is a change that simply alters the time pattern of tax payments, but not their total amount.[6]

The implication of this result is quite significant in the debate over tax reform and revenue neutrality. For example, suppose a tax system is enacted that institutes economic depreciation. The five-year cumulative tax increase on income from the tire-making machine would be $2,775 when compared with ACRS. Also suppose that, in the spirit of revenue neutrality, this amount is used to increase personal exemptions or some other revenue-reducing option resulting in an equal tax loss. For the first five years, the system would remain revenue neutral; after that a sizable loss of revenue would occur (measured relative to current law). Over the next five years, cumulative revenue losses of $2,775 would be accrued and the new tax system would turn from revenue neutral to a revenue loser relative to current law. On a present value basis, the tax increase over the life of the machine would actually be $479--the present value of tax reductions that can be financed by the depreciation change. The implication of this result is that the move from a front-loaded depreciation system to economic depreciation, considered alone, can appear to raise taxes significantly on corporations in the near future when the tax increase may be only moderate, or even a tax decrease, in present value terms over a longer time frame.

Clearly, in the transition from ACRS (with its front-loaded depreciation deductions) to economic depreciation (where deductions are spread out over a longer period), some firms will experience a sharp increase in tax payments during the first few years. The large immediate tax increase could impose a sizable burden on corporate cash flow. Offsetting this, however, would be future tax reductions. Theoretically, companies should be able to borrow against these reductions, thereby evening out their cash flow.[7]

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[6] For example, a current tax increase from repealing the investment tax credit is likely to be worth much more than a current tax increase resulting from changing the timing of depreciation deductions.

[7] This assumes, of course, that financial markets recognize future tax reductions as an asset of the corporation. To the extent that financial institutions view any long-term receivable as an asset, future depreciation deductions may be regarded the same way. On the other hand, firms (and their lenders) may be uncertain about the realization of future tax deductions and discount their value quite heavily. If so, companies

The President's Plan

The President's tax reform proposal includes several basic changes in the taxation of corporate income. The proposal repeals the investment tax credit, institutes a new system of depreciation and lowers the top corporate tax rate from 46 percent to 33 percent.[8] The new depreciation system stretches out depreciation compared with ACRS and indexes the system for inflation. The combination of the depreciation changes and elimination of the ITC reduces differences in effective tax rates among assets. As the above discussion points out, this type of tax change is likely to produce a tax increase relative to current law within the first few years of enactment for depreciable assets purchased after the tax change, and a tax decrease relative to current law in later years. When aggregated across all assets purchased in a given year, the same effects will occur. Therefore, sole reliance on five-year revenue estimates (calculated on the traditional cash-flow basis) will provide a misleading indication of the change in taxes paid on the income earned by a given asset purchased after the tax change.[9]

The tax payments attributable to a single hypothetical corporate investment under the alternative tax depreciation systems has been calculated to compare five-year revenue estimates and present value revenue estimates of changes in tax policy.[10] The hypothetical investment is a $10,000 permanent increase in the real stock of capital goods that roughly mirrors the current composition of the U.S. corporate capital stock. Therefore, the tax payments and tax rates calculated here are intended to reflect those related to this marginal increase in the capital stock.

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may expect to have sizable short-run difficulties.

[8] The proposal also calls for a 10 percent dividends-paid deduction and a recapture of the rate reduction for accelerated depreciation.

[9] Unlike the depreciation change, the rate reduction and repeal of the ITC do not give rise to major tax effects in the future. (The repeal of the ITC will have some small out-year effects to the extent that the current 50 percent basis adjustment reduces future depreciation deductions. Repealing it would therefore increase depreciation deductions in the future. Repealing the ITC may also have future tax effects to the extent that credits that are presently carried over would be utilized sooner rather than later.) Therefore, the cash-flow estimates of the revenue effects of these changes are likely to be much more indicative of their actual longer-term effect on corporate tax burdens.

[10] The changes considered here are the rate cut, the new depreciation system and the repeal of the investment tax credit. The dividends-paid deduction and the recapture of the rate reduction on accelerated depreciation are not considered in the analysis of the composite investment.

The simulated investment consists of buildings, equipment and machinery, and inventories. The initial investment shares are shown in Table 2. It is assumed that once the investment has been made, subsequent investment (equal to the economic depreciation of the new capital stock) is undertaken in order to maintain the real value of the new capital over time. (Because this is a static analysis of the tax proposal, it is assumed that the composition of the capital stock does not change in response to the changes in tax rules.)

Changes in depreciation apply not only to increases in the capital stock, but to replacement investment as well. Therefore, in actually calculating five-year revenue estimates (such as those in the second part of this paper), both replacement and net new investment (the sum of which is gross investment) must be taken into account. Because the composition of the capital stock is weighted more heavily toward long-lived assets, such as buildings and structures, rather than short-lived assets, such as equipment and machinery, the revenue profile associated with this simulated investment will not be directly comparable with those based on gross investment flows that are presented in the second part of this paper.[11]

In the simulation, the investment is assumed to be made at the start of the year; income and tax deductions start to be realized at the end of six months, and occur every six months thereafter. The firm is assumed to require a 4 percent real after-tax return and is subject to the 46 percent top statutory tax rate. The inflation rate is assumed to remain a constant 4 percent. The firm is assumed to maintain the real size of its new capital stock by reinvesting an amount sufficient to offset any real economic depreciation (that is, the investment remains at $10,000 in real terms in perpetuity). The model is solved by determining the annual gross revenue the firm must earn in order to yield its 4 percent required return. The investment is assumed to be financed out of retained earnings.

The model takes into account the different ACRS depreciation rates that apply to each of the different types of assets in the capital stock. The investment tax credit (ITC) under current law, with the 50 percent basis adjustment, is also included in the model.

Table 3 compares tax payments for this representative investment under current law and the President's plan. The first two columns show the tax payments under current law and those that would be payable under the President's plan (at the 33 percent tax rate). The tax increase in the first year of such a change would be $551. The first year increase is largely attributable to the repeal of the investment tax credit. Over the first five years, the cumulative tax increase is $886 which has a present value of $757. In the sixth year and thereafter, however, the new system loses revenue each year relative to current law. By the end of 20 years,

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[11] The time profile of the revenue estimates will also differ because the simulated investment remains constant in real terms, whereas the revenue estimates in the second part of this study account for continuing growth in the capital stock.

TABLE 2. COMPOSITION OF CAPITAL GOODS IN SIMULATED INVESTMENT

Asset Type	Percentage of Investment
Industrial Buildings	9.6
Commercial Buildings	9.3
Railroad Structures	2.7
Telephone and Telegraph Facilities	4.0
Electric Light and Power Facilities	9.8
Gas Facilities	2.6
Petroleum Pipelines	0.9
Furniture and Fixtures	1.8
Fabricated Metal Products	1.7
Engines and Turbines	1.0
Tractors	0.9
Agricultural Machinery	2.1
Construction Machinery	1.1
Mining and Oilfield Machinery	0.9
Metalworking Machinery	2.5
Special Industry Machinery	2.6
General Industrial Machinery	2.4
Office, Computing, and Accounting Machinery	2.1
Service Industry Machinery	0.9
Electrical Transmission, Distribution, and Communications Equipment	6.5
Trucks, Buses, and Trailers	2.2
Automobiles	1.1
Aircraft	0.8
Ships and Boats	0.8
Railroad Equipment	1.7
Instruments	2.3
Other Equipment	1.0
Inventories	25.0
Total	100.0

SOURCE: Congressional Budget Office estimates based on National Income and Products Accounts investment data.

TABLE 3. CORPORATE TAX PAYMENTS FOR PERMANENT $10,000 INCREASE IN CAPITAL STOCK UNDER CURRENT LAW AND THE PRESIDENT'S PLAN

Year	Taxes Under: Current Law	Taxes Under: President's Plan	Increase or Decrease	Cumulative Change
1	-573	-22	551	551
2	-51	-32	19	570
3	-59	17	77	647
4	-73	39	112	759
5	-91	36	127	886
6	205	23	-182	704
7	222	42	-181	524
8	242	146	-96	428
9	252	148	-104	324
10	263	152	-111	213
11	278	239	-39	173
12	290	247	-43	130
13	313	256	-57	74
14	326	265	-61	13
15	340	275	-65	-52
16	400	284	-116	-168
17	416	294	-122	-290
18	433	305	-129	-418
19	471	316	-155	-574
20	510	327	-183	-757
Present Value (5 years)	-738	19	757	
Present Value (20 years)	1,024	1,135	111	
Present Value (In perpetuity)	3,853	3,077	-775	

SOURCE: Congressional Budget Office.

the cumulative revenue loss is $757. The present value of the taxes paid increases by $111 over the first 20 years, but declines by $775 when calculated over an infinite number of years.

The effective tax rate calculated in this model on the overall investment under current law is about 29 percent. This tax rate is higher than effective corporate tax rates reported elsewhere, primarily because it accounts for the 25 percent of the corporate capital stock that consists of highly-taxed inventories.[12] LIFO accounting is assumed to be used for inventories, therefore resulting in an effective tax rate equal to the statutory tax rate. The effective tax rate is equal to the statutory tax rate on LIFO inventories because the real return--and only the real return--is taxed in full.

The effective tax rate on corporate capital is reduced by the new policy, in spite of the apparent tax increase indicated by the five-year revenue effect. The effective corporate tax rate on this equity-financed investment is calculated at 24 percent--well below the 29 percent effective corporate tax rate calculated under current law. (The Treasury estimates that the effective corporate tax rate from the President's plan will be reduced from 35 percent under current law to 25 percent under the reform proposal.[13]) Both sets of effective tax rate estimates are for the corporate level tax only and are based on an investment fully financed by equity. They do not take into account any proposed changes in personal income taxation that affect income from corporate capital, nor do they account for debt finance.[14] As has been noted elsewhere, when these factors are included, the overall effective tax rate on income earned in

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[12] For example, Alan J. Auerbach, in "Corporate Taxation in the United States," Brooking Papers on Economic Activity 2:1983, (Washington, D.C.: Brookings Institution, 1984) pp. 451-513, does not include inventories in his computation of the overall effective corporate tax rate.

[13] The President's Tax Proposals to the Congress for Fairness, Growth, and Simplicity, p. 159. The differences in effective tax rates (between the Treasury estimates and CBO estimates) are primarily due to differences in the estimated asset composition of the corporate capital stock.

[14] Changes (not included here) that affect the overall taxation of income earned in the corporate sector include the reduction in individual tax rates, the decrease in the exclusion for capital gains, and the dividends-paid deduction. Debt finance may affect the overall taxation of corporate source income because interest payments are deductible to corporations and are taxable to lenders, who may be in a different tax bracket.

the corporate sector may actually increase under the President's proposal.[15]

This analysis suggests that the general corporate tax provisions included in the President's tax plan might result in lower corporate revenues (compared to current law) when measured in present value terms over an extended time horizon. Other specific corporate provisions, however, may still serve to increase the overall revenues raised by the corporate tax in the long-run. Moreover, the time pattern of the actual revenue changes in the first 20 years will differ from that shown in Table 3 because of growth in the level of investment. The next section presents CBO's estimates of the revenue effects of the major corporate tax provisions for the next 15 years, based on CBO assumptions about the future growth pattern of investment.

REVENUE EFFECTS OF MAJOR CORPORATE TAX PROVISIONS

The following sections provide a preliminary CBO estimate of the pattern of revenue effects for the general corporate provisions of the Administration's recent tax reform proposal over the first 15 years, a decomposition of the first five years of this estimate into the four general provisions (with the revenue effects of the rest of the corporate provisions in the proposal combined with the effect of the rate reduction), and a comparison of the components with the Treasury's revenue estimates for the proposal. The methodology and economic assumptions used to produce CBO's estimates are described in the Appendix. For the first five years these estimates, which are sensitive to economic assumptions, are based on CBO's baseline economic projections of February 1985, that assume less real growth and more inflation than the Administration's estimates. These estimates are not intended to be substitutes for official revenue estimates provided by the Joint Committee on Taxation. The JCT is currently refining its methodology, and plans to release estimates of the revenue effects of the President's proposal.

Additional Depreciation Deductions Resulting From CCRS

Table 4 shows the change from current law in the corporate depreciation deductions that would result from the capital cost recovery system (CCRS) proposed by the Administration. CCRS would increase depreciation deductions, relative to current law, in each of the next 15 years except 1989 and 1990. The two years in which CCRS would reduce depreciation deductions relative to current law are 1989 and 1990, the years in which deductions for investment put in place after 1985 would peak under the accelerated cost recovery system (ACRS) of current law.

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15 See Don Fullerton, Testimony Before the Senate Finance Committee, June 20, 1985.

TABLE 4. CHANGES IN AGGREGATE CORPORATE DEPRECIATION DEDUCTIONS DUE TO CCRS (CCRS MINUS ACRS)

Calendar Year	Billions of Dollars	Percent of GNP
1986	4.0	0.1
1987	17.7	0.4
1988	6.5	0.1
1989	-5.6	-0.1
1990	-22.0	-0.4
1991	4.1	0.1
1992	25.3	0.4
1993	39.2	0.6
1994	45.2	0.6
1995	51.7	0.6
1996	54.2	0.6
1997	55.2	0.6
1998	55.9	0.6
1999	56.7	0.5
2000	57.8	0.5

SOURCE: Congressional Budget Office.

Over the first five calendar years, the increases and decreases in aggregate depreciation would be almost exactly offsetting. However, because the revenue effect of the change in 1990 depreciation would be divided between fiscal years 1990 and 1991, the revenue effect over the first five fiscal years of the depreciation proposal alone would be negative. After the first five years depreciation increases rapidly, compared with current law, for three years, and then stabilizes at 0.6 percent (later 0.5 percent) of GNP.

If CCRS depreciation were compared with ACRS without the ITC basis adjustment[16] (so that the revenue loss from removing the basis adjustment could be subtracted from the revenue gain from repealing the ITC), the proposal would show a smaller increase in depreciation. The pattern of changes, however, would still be the same.

Table 5 shows the proportions of the original cost of new equipment purchased in one year which would be claimed as annual depreciation deductions under both ACRS and CCRS[17]. Investment in producers' durable equipment is about two-thirds of business fixed investment, and more than 70 percent of corporations' fixed investment. Because of its volume, and because it is written off faster than structures under any tax system, depreciation of equipment dominates the pattern of depreciation changes in the first years following any rule change. Therefore, Table 5 illustrates the major reason CCRS would provide more depreciation deductions than ACRS in most years. As shown in Table 5, CCRS would provide more generous deductions than ACRS for three-year equipment in every year the equipment was depreciated except the third. For a weighted average of new equipment in the five-year ACRS class, CCRS would provide more generous deductions in the first and second year, and, with inflation averaging 3 percent or higher, CCRS deductions totaling more than 25 percent of the original cost would be taken over years in 6 through 11, after tax depreciation would have been completed under ACRS.

Public utilities would claim more depreciation, and at a faster rate than under ACRS, because the bulk of public utility property would move from the 15-year ACRS class to being depreciated over ten years with indexing. At a 4 percent inflation rate, the depreciation factors for structures (other than public utility property) would be lower than ACRS

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16 Under current law, the depreciable basis of equipment is reduced by 50 percent of the ITC for which it is eligible.

17 Actual depreciation deductions in any year are the sum of the first year's depreciation factors (as shown in Table 5) applied to the current year's investment, the second year's depreciation factors applied to last year's investment, and so forth. Therefore, the reduction in the third year factor for three-year equipment and in the third through fifth year factors for five-year equipment reduce total depreciation on equipment only in years when their effect is not outweighed by increased depreciation factors applied to older and newer equipment.

TABLE 5. ANNUAL DEPRECIATION FACTORS FOR EQUIPMENT UNDER ACRS AND CCRS (As a share of original cost)

	Year					
	1	2	3	4	5	Years 6-11 (Sum)
ACRS						
3-year	.25	.38	.37			
After ITC basis adjustment	.243	.369	.359			
5-year	.15	.22	.21	.21	.21	
After ITC basis adjustment	.143	.209	.200	.200	.200	
CCRS Before Indexing						
Class 1	.275	.399	.179	.098	.048	
Class 2 (25%)	.220	.343	.192	.108	.092	.045
Class 3 (19%)	.165	.276	.185	.124	.100	.151
Class 4 (51%)	.110	.196	.153	.119	.122	.300
Class 5 (5%)	.085	.156	.129	.107	.089	.434
Weighted Average						
Classes 2-5	.147	.246	.167	.116	.109	.215

Continued

TABLE 5. (Continued)

	Year					
	1	2	3	4	5	Years 6-11 (Sum)
CCRS After Indexing						
4% Inflation						
Class 1	.275	.415	.194	.111	.057	
Classes 2-5	.147	.256	.181	.131	.127	.270
3% Inflation						
Class 1	.275	.411	.190	.107	.055	
Classes 2-5	.147	.253	.178	.127	.122	.255
5% Inflation						
Class 1	.275	.419	.198	.114	.059	
Classes 2-5	.147	.258	.185	.135	.132	.286
DIFFERENCE (CCRS-ACRS)						
4% Inflation						
Class 1	.033	.042	-.165	.111	.057	
Classes 2-5	.004	.047	-.018	-.069	-.072	.270
3% Inflation						
Class 1	.033	.042	-.169	.107	.055	
Classes 2-5	.004	.044	-.022	-.072	-.077	.255
5% Inflation						
Class 1	.033	.050	-.161	.114	.059	
Classes 2-5	.004	.049	-.015	-.065	-.067	.286

for the first nine years, but over the life of the property total depreciation deductions would equal 181 percent of the original cost, or 81 percent more than under ACRS. The full revenue effect of indexing depreciation on structures would not be felt until well beyond the year 2000.

The change in depreciation for noncorporate business, which is not shown in Table 4, follows a similar pattern. However, because noncorporate business investment is much more heavily weighted toward structures than corporate investment (more than 30 percent instead of less than 20 percent) and does not include significant amounts of public utility property, the change from ACRS to CCRS would reduce noncorporate depreciation from 1988 through 1991. Because noncorporate investment is smaller than corporate investment, the increase in depreciation after 1991 would amount to less than 0.1 percent of GNP through 2000. Although later, when the full impact of indexing depreciation of real property was felt, the net increase in depreciation and the associated revenue loss would be larger.

Fifteen-Year Revenue Profile of the General Corporate Provisions of the Administration's Proposal

Table 6 shows CBO estimates of the revenue effects of the general corporate provisions in the Administration's proposal, compared with current law. These general provisions include the change from ACRS to CCRS depreciation, the reduction in the maximum statutory rate on corporate profits from 46 percent to 33 percent, the repeal of the Investment Tax Credit (ITC), and the provision of a deduction for 10 percent of dividends paid. CCRS and the repeal of the ITC occurs on January 1, 1986, the rate reduction takes place on July 1, 1986, and the dividend deduction on January 1, 1987.

Over the first five years the net effect of these provisions would be a $15 billion reduction in corporate taxes (about 0.1 percent of GNP). These provisions, however, would be offset by the revenue gains from corporate base-broadening and the windfall recapture tax. After 1991, the general provisions of the proposal included here would provide a reduction in corporate taxes equal to about 0.2 percent of GNP or roughly 1 percent of total revenues.[18] The corporate tax is expected to average about 2.3 percent of GNP by 1990 (assuming that corporate profits remain above their historical average of 8 percent of GNP). Thus, 0.2 percent of GNP would mean a reduction of almost 9 percent in corporate tax revenues.

Comparison with Treasury Department Revenue Estimates

Revenue estimates for individual portions of tax proposals depend crucially on the order in which the estimates are made. For instance, when a

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[18] The Administration has defined revenue neutrality as within 1.5 percent of revenues under current law.

TABLE 6. AGGREGATE REVENUE EFFECTS OF PROPOSED CHANGES IN CORPORATE TAX RATES, REPEAL OF THE ITC, CHANGES IN THE TREATMENT OF DEPRECIATION, AND A PARTIAL DIVIDENDS-PAID DEDUCTION (Unified budget, changes from current law)

Fiscal Year	Billions of Dollars	Percent of GNP
1986	4.1	0.1
1987	-4.1	-0.1
1988	-11.1	-0.2
1989	-4.9	-0.1
1990	1.0	0.0
1991	0.6	0.0
1992	-6.1	-0.1
1993	-11.2	-0.2
1994	-14.2	-0.2
1995	-16.0	-0.2
1996	-17.5	-0.2
1997	-18.2	-0.2
1998	-18.6	-0.2
1999	-18.9	-0.2
2000	-19.3	-0.2

SOURCE: Congressional Budget Office.

proposal contains both base-broadening provisions and reductions in tax rates, the revenue gain from each base-broadening provision will be larger if it is estimated at the current law rate (and the revenue loss from the rate reduction will look larger because it will be estimated from a broader base.) The Treasury's estimates for the Administration's tax reform proposal show the revenue effects of the base-broadening provisions, as well as the depreciation change, as though the statutory rate were 46 percent. The revenue effect of the rate reduction is the result of applying the lower rate to the new base, which is considerably broader than current law. The revenue effect of the dividends-paid deduction is then estimated at the proposed 33 percent maximum rate, and with the level of dividend payments that would be expected to result from the rate reduction.

In Table 7, the revenue estimate shown in Table 6 was decomposed into each of the four general provisions, the stacking order used by the Treasury was imposed (there is no stacking order when all estimates are made simultaneously), and Treasury estimates of the base-broadening and other provisions (scaled down where appropriate) were combined with the rate reduction. These calculations allow a direct comparison with the Treasury's estimates. Differences shown for the total proposal obviously are due only to the four provisions estimated by CBO. Within those four provisions, portions of the differences in the revenue estimates can be attributed to offsetting definitional differences, such as attributing the effect of losing the ITC basis adjustment upon repeal of the ITC to the revenue gain from repeal instead of including it in the revenue change from depreciation.

As previously mentioned, revenue estimates are also sensitive to economic assumptions. In Table 7 the Treasury estimates are based on the latest Administration economic assumptions. The CBO estimates are based on the CBO baseline economic projections from February 1985.

Differences in the estimated revenue effect of ITC repeal primarily result from different assumptions about the rate at which ITC carryovers (which would not be included in the repeal) would be taken once repeal dried up the supply of new credits.

Estimates of the revenue effect of the depreciation changes differ because of different assumptions about the mix of investment, and different levels of total investment in the economic forecasts.

The estimated effect of a rate cut, even in a static estimate, depends on the effects of other portions of the proposal on the tax base, whether the rate cut is stacked before or after changes in the base. For example, in a proposal that combines a depreciation change with a rate reduction, significant differences in the estimated change in depreciation would have significant effects on the tax base, and therefore on the revenue effect of the rate reduction. The $30.6 billion five-year difference in the estimated revenue effect of the depreciation proposal implies a taxable income difference of $66.5 billion. Adding that amount to the CBO baseline projection for profits would have increased CBO's estimate of the revenue loss from the rate reduction by more than $8 billion.

TABLE 7. COMPARISON OF CBO AND TREASURY FIVE-YEAR ESTIMATES (Unified budget, billions of dollars)

	1986	1987	1988	1989	1990	Total
ITC Repeal						
Treasury Estimate	14.0	25.6	29.4	33.3	37.4	139.7
CBO Estimate	11.0	24.0	28.8	33.8	37.9	135.5
Difference	-3.0	-1.6	-0.6	0.5	0.5	-4.2
Depreciation Change, Valued Before Rate Reduction						
Treasury Estimate	0.3	-0.7	2.3	8.7	15.4	26.0
CBO Estimate	-0.8	-4.3	-4.8	-0.2	5.5	-4.6
Difference	-1.1	-3.6	-7.1	-8.9	-9.9	-30.6
Rate Reduction and Base Broadening						
Treasury Estimate	4.6	4.6	-1.2	-10.9	-19.6	-22.5
CBO Estimate	6.3	6.7	0.8	-10.3	-20.5	-16.9
Difference	1.7	2.1	2.0	0.6	-0.9	5.6
Dividend Deduction, Valued at 33 Percent						
Treasury Estimate	0.0	-3.4	-6.2	-7.2	-8.0	-24.8
CBO Estimate	0.0	-2.4	-5.0	-5.4	-5.8	-18.6
Difference	0.0	1.0	1.2	1.8	2.2	6.2
Total Proposal						
Treasury Estimate	18.9	26.1	24.3	23.9	25.2	118.4
CBO Estimate	16.6	24.0	19.8	18.0	17.1	95.4
Total Difference	-2.3	-2.1	-4.5	-5.9	-8.1	-23.0

SOURCE: Treasury estimates are based on the latest Administration economic assumptions and the CBO estimates are based on the CBO baseline economic projections from February 1985.

The estimated revenue loss from the dividends-paid deduction is determined by the forecast level of profits and the share of profits assumed to be paid out in dividends. The April 1985 Administration forecast on which the Treasury's estimates were based has very similar book profits to the CBO baseline. Thus, differences are more likely to be the result of dividend payout assumptions. CBO's estimate assumes that the allocation of after-tax profits to dividends and retained earnings is about half-way between keeping the ratio of dividends to economic income unchanged, and keeping the ratio of retained earnings to economic income unchanged.

ADDITIONAL PROVISIONS THAT MAY HAVE IMPORTANT LONG-RUN REVENUE IMPLICATIONS

Several major tax reform provisions not estimated here have long-run revenue effects (relative to GNP) that may be significantly different from their effect in 1990 (the last year for which Treasury reports revenue estimates for the President's tax reform plan). Brief descriptions of the provisions and the associated long-run potential revenue effects are presented below:

1. Match Income and Expense From Multiperiod Production (+$14.1 billion in 1990). Under current law, taxpayers are allowed to deduct certain costs prior to the realization of income from a particular investment. For example, timber producers are allowed to deduct certain growing expenses or carrying costs prior to the realization of income from timber production. Defense contractors are allowed to deduct overhead and interest costs prior to the realization of income from long-term government contracts. The President's plan would require businesses to match their expenses with the income generated by those expenses so that the timing of tax liability is more accurately matched to the receipt of income. In effect, this provision requires many firms to postpone the recognition of expenses for tax purposes until the associated income is also recognized.

This type of tax provision results in some acceleration of tax payments because the denial of certain deductions today means that future deductions will be correspondingly higher. For example, a deduction that is denied in 1990 might be subsequently realized in 1993, thereby raising 1990 revenues and lowering revenues in 1993, but other deductions would be denied in 1993, resulting in higher revenues in that year. The net result of these two offsetting effects in future years depends on the rate of growth of new contracts, the amount of deductions deferred, and the length of time of the deferral. Because these provisions basically apply to new contracts, revenue growth should be rapid in the first few years as the stock of affected agreements increases rapidly. As soon as most contracts are covered by the new provisions, the revenue gain should decline (relative to GNP) because of the offsetting deferrals. On balance, the provisions should provide a permanent increase in revenues as long as the nominal growth in affected contracts continues.

2. Reduce Capital Gains Exclusion to 50 Percent (+$5.4 billion in 1990). This provision raises two long-run revenue issues. The first is that the provision includes a rule that allows taxpayers the option of taking the exclusion or indexing their cost basis in computing gains subject to taxation after 1991. Thus, after 1991, this election should tend to reduce substantially effective tax rates on gains with a large inflationary component, thereby lowering revenues from this provision.[19]

A second issue has to do with the inclusion of induced realizations in the revenue estimates. To the extent that induced realizations reflect acceleration of gains that would ultimately have been realized, taxes on capital gains in the future would be reduced. Thus, the long-run revenue effect from this provision may be lower than its initial effect (relative to GNP) to the extent that future realizations are lower than they would be otherwise.

3. Eliminate Private-Purpose Tax Exempt Bonds (+$4.5 billion in 1990). The annual revenue gain from this provision depends on the change in the stock of outstanding tax-exempt bonds and the interest rate. The provision, however, only applies to bonds issued after 1985. Therefore, revenue growth should be rapid in its first few years as the stock of bonds issued after 1985 would grow quite rapidly. As the growth in post-1985 total private purpose bonds would eventually slow down, revenue growth would also slacken. The long-run revenue gain relative to GNP from this provision is likely to be higher than indicated by the 1990 revenue estimate because the stock of new tax-exempt bonds in the baseline would presumably still be growing at a fairly rapid rate (relative to GNP) at that time.

4. Tax Some Health Insurance Benefits (+$4.0 billion in 1990). To the extent that the population covered by health insurance grows in future years, the amount gained by this provision should also tend to grow. This effect would be offset by the fact that the inclusion amounts ($10 per month for individual coverage and $25 per month for family coverage) are not indexed for inflation. The real taxation of these benefits will decline over time as long as inflation remains positive. Therefore, the revenue from this provision may not keep pace with GNP growth in the longer-run.

5. Repeal Three-Year Basis Recovery Rule For Contributory Retirement Plans (+$2.8 billion in 1990). Under current law, distributions from contributory retirement plans are partially taxed. The portion attributable to employer contributions and pension plan earnings is taxable, while the portion attributable to employee contributions is not taxed because the contributions were made from after-tax income. When the amount to be distributed during the first three years exceeds

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[19] However, indexing would only cover inflation after January 1, 1991. Thus, under the moderate inflation rates generally assumed for long-term forecasts, this provision would have no effect for several years.

the total employee contribution, taxpayers are allowed to recover these after-tax contributions first (until they have recovered the full amount of their contributions); subsequent benefit distributions are counted as taxable income. The President's proposal would accelerate the recognition of some pension benefits for income tax purposes by eliminating the three-year recovery rule and applying an annual exclusion ratio to all benefit payments that reflects the expected ratio of return of (after-tax) contributions to total payments over the annuitant's lifetime. The effect of this provision is to increase taxable benefits in earlier years and reduce them in future years. This provision would apply to annuities that begin to make payments after January 1, 1986.

Because this provision applies only to annuities that go into pay status after 1985, the revenue from this provision could grow to well above its 1990 ratio to GNP. This growth in revenue would happen as more and more contributions are subject to the new rules. On the other hand, there is a future offsetting effect because, for any retiree, the proportion of benefits that will be taxable in the later years of his or her annuity will decline relative to current law. The net effect on future revenues from this provision is uncertain.

6. Modify Taxation of Cash and Deferred Arrangements (CODAs) (+$2.8 billion in 1990). This proposal would limit to $8,000 the amount that an individual could contribute to a CODA plan (otherwise known as a 401(k) plan). This limit would be coordinated with the limit on the amount that an individual can contribute to an individual retirement account (IRA). This provision substantially reduces the tax free contribution limits for highly paid individuals.[20]

Because these plans have been growing quite rapidly in recent years, the revenue increase from this proposal is likely to grow faster than GNP for a number of years. Moreover, because the contribution limits are not indexed for inflation, they will become a more stringent restriction in future years as prices continue to rise. On the other hand, there will be an offsetting future revenue effect because tax free contributions are taxable when distributed. Limiting tax free contributions will eventually result in lower taxable distributions, which will offset part of the revenue gain in future years.[21]

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[20] The President's proposal contains complex provisions to broaden CODA participation at lower wage levels in enterprises that maintain a CODA. These provisions may contribute to a decline in CODA growth because they make them less attractive to higher-paid management officials.

[21] For example, each dollar deposited in a taxable savings account instead of a CODA (because of the new limit) would raise tax revenues in the year deposited by 30 cents for a taxpayer in the 30 percent bracket. If the nominal interest rate were equal to 10 percent, taxes on interest in the four succeeding years would raise revenues by another 12 cents for a

7. Limit Property and Casualty Loss Reserves. (+$2.3 billion in 1990). Property and casualty insurance companies are currently allowed to deduct amounts set aside (on their books) to cover expected future losses. These amounts are based on their experience, but are not discounted for the fact that the losses will be paid off in the future, thereby allowing the company the use of the funds in the interim. This proposal would effectively require companies to limit their deductions to the present value of expected future losses. This requires companies to take account of the interest earned on their reserves when computing the amounts they need to set aside to cover future losses. The result is a reduction in the amounts deducted by companies to cover future losses and a corresponding increase in revenues.

This proposal would apply to policies issued after 1985 and should therefore grow as the number and value of new policies grows over time.

8. Repeal Most of Percentage Depletion (+$1.7 billion in 1990). The transition provisions for this change would be completed by 1990. The 1990 revenue effect from this provision could overstate its long-run growth (relative to GNP) because some of the reduction in percentage depletion deductions would be offset by future deductions for indexed cost depletion. Producers not allowed percentage depletion under this proposal would instead be allowed to take indexed cost depletion deductions to recover their investments in extractive operations.

9. Limit Individual Interest Deductions (+$1.5 billion in 1990). The President's proposal places a ceiling ($5,000) on individual interest deductions in excess of investment income, excluding deductions for mortgages on primary residences. This limit is not indexed for inflation. Therefore, the revenue growth from this provision may grow faster than the rate of GNP growth.

10. Limit Bad-Debt Deductions of Non-Depository and Depository Institutions (+$2.5 billion in 1990). The President's proposal would repeal the special provisions that allow taxpayers to deduct bad-debt reserves based on expected loan losses, instead of deducting the actual losses when they are realized, and that allow commercial banks and thrift institutions to deduct bad-debt reserves that are larger than their expected loan losses. Transition rules would gradually bring existing reserves into taxable income, in order to avoid double

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five year revenue gain of 42 cents. Suppose further that the CODA deposit would have been withdrawn after 15 years. Under those assumptions, there would be additional taxes on interest accumulated in years 6 to 15 under the proposal, followed by an offsetting loss of $1.25 that would have been collected on withdrawal of the tax-free contribution from the CODA in the fifteenth year. The present value over the entire period of the revenue gain per dollar invested in the first year would, in this example, be 23 cents, compared with the 42 cents gain over the first five years.

deductions for loans that become partially or completely worthless after the effective date of the proposal.

For most taxpayers, the switch from bad-debt reserves to deduction of actual losses only delays deductions, without changing the amounts that will eventually be deducted. The revenue effect from this proposal involves an immediate forward shifting of revenues and some long-run growth depending on the rate of growth in bad-debt deductions over time. In contrast, the bad-debt reserve provisions for depository institutions have provided a permanent tax reduction, part of which is subject to the additional tax on corporate tax preferences. Repeal of these provisions will permanently increase taxes on commercial banks and thrift institutions, although the revenue gain as a share of GNP will depend on the future health of commercial banks and thrift institutions.

11. Increased Spousal IRA's (-$1.1 billion in 1990). The President's plan proposes to raise the limit on tax deductible contributions to IRA's for couples with a nonworking spouse from $2,250 to $4,000. The annual revenue loss is likely to decrease slowly as a percentage of GNP in the years immediately after the five-year projection period because the ceiling on contributions is not indexed and will decrease substantially in later years when withdrawals from spousal IRAs begin since the withdrawals will be fully taxable.

12. Extension of the Research and Experimentation Tax Credit (-$1.9 billion in 1990). The President's plan proposes to extend the R&E tax credit for three years (through December 31, 1988). Since the credit would then expire after 1988, the revenue loss disappears in the long run.

In conclusion, the above provisions have long-run revenue effects that are likely to offset one another to some degree. The Congressional Budget Office has not made out-year revenue estimates of these provisions and has not determined whether their combined revenue effect grows faster or slower than GNP after 1986-1990. The corporate tax provisions that have been reviewed in this paper, however, are likely to raise significantly less revenue (relative to GNP) than indicated by their five-year revenue effect.

APPENDIX: THE CBO DEPRECIATION CALCULATOR

The depreciation calculator used here estimates the additional depreciation deductions available to business as a result of a change in the law governing tax depreciation. Total depreciation deductions under old and new law are estimated by depreciating individual vintages of each type of corporate capital good, using average annual depreciation factors appropriate for each depreciation system. The derivations of the depreciable bases and annual depreciation factors will be documented in detail in a future CBO staff paper, and are summarized below.

The depreciable bases for the depreciation calculator are derived from forecasts of the national income and product account (NIPA) measures of business fixed investment in producers' durable equipment (PDE) and nonresidential structures. The equipment base is increased to account for those business purchases of new autos which, under the definition of PDE, are offset by business sales of used autos to nonbusiness sectors. Nonresidential structures are increased to total business structures by adding an estimate of business purchases of residential structures. The equipment and structures bases are then divided into corporate and noncorporate portions, and the corporate share of structures is divided into utility property and real property. The resulting corporate depreciable bases for new capital goods are equipment, utility property, and real property. Changes in depreciation rules also apply to capital goods that change owners, so four more depreciable bases are independently estimated. These include used equipment and real property (pre-1981 capital goods which change hands and come under new law), and resold equipment and real property (post-1980 capital goods which change hands.) The unadjusted basis of used and resold structures is assumed to have increased at the same rate as the GNP deflator. Used and resold equipment is not assumed to appreciate with inflation.

Average tax lives under pre-1981 law, average depreciation factors under new law, and average statutory ITC rates under old and new law, are calculated using NIPA investment weights modified by considerable judgment. Assumptions about the distribution of depreciation methods are used to calculate annual depreciation factors under old law, given the average tax lives. Average statutory ITC rates are used to apply the ITC basis adjustment to depreciable equipment bases when appropriate. The GNP deflator is used to index the new law annual depreciation factors when the proposal includes indexing of depreciation deductions.

Technical Assumptions for the Depreciation Calculator

In 1986, corporations are assumed to own 77 percent of depreciable new equipment, 50 percent of depreciable used equipment, 100 percent of utility property, and 66 percent of depreciable real property. The total depreciable new equipment base is 106.1 percent of producers' durable equipment (and used autos equal to 6.1 percent of PDE are sold to nonbusiness

sectors after only one year in the depreciable base), utility property is 22.4 percent of nonresidential real structures, and new real property (including business purchases of residential property) is 86.4 percent of nonresidential structures.

The average ITC rate on equipment is 9.4 percent under ACRS. Twenty-five percent of equipment is assumed to be three-year equipment under ACRS, and class 1 equipment under the Administration's proposal. In the first year of the Administration's proposal, 19 percent of equipment would be class 2, 14 percent class 3, 38 percent class 4, and 3 percent class 5. Thirteen percent of utility property is assumed to be 10 year property under ACRS.

Forty percent of new real property is depreciated using the straight line alternative, which under current law avoids recapture of depreciation deductions upon resale. Real property for which straight line depreciation has been chosen under ACRS is assumed to be resold according to the following schedule: 10 percent in the seventh year, 20 percent in the eighth, 40 percent in the ninth, 20 percent in the tenth, and 10 percent in the eleventh year. Five percent of new equipment is assumed to be resold in the fifth year, and 15 percent in the sixth year, with the resale price equal to what the adjusted basis would have been under pre-1981 law.

Use of depreciation calculator results to calculate revenue estimates

The change in depreciation deductions estimated by the depreciation calculator is subtracted from a forecast of taxable profits before the depreciation change. The resulting estimate of taxable profits is further adjusted (as mentioned above) for the allocative effects of any dividends-paid deduction in the proposal. Taxable profits are then multiplied by the effective tax rate.

The effective tax rate on taxable profits is determined both by the statutory rate and by all provisions which reduce taxes without affecting the measurement of the taxable base. In the procedure used to make the revenue estimates presented here, an equation is estimated with liability after the foreign tax credit, but before the investment tax credit, as the dependent variable. The effective tax rate is the product of the maximum statutory rate and the coefficient of the independent variable which includes taxable profits and the statutory rate.

The resulting calendar year liability estimates are then distributed to a fiscal year unified budget basis.

Economic Assumptions

Projections of five aggregate economic variables are required to produce the revenue estimates presented here. For these estimates, the CBO

baseline projections of February 1985 were used for the first five years, and constant growth rates were assumed for the next 10 years. Those economic variables, their average annual growth rates between 1986 and 1990, and the average rates assumed for subsequent years, are shown below:

ECONOMIC ASSUMPTIONS
(average annual percent change, calendar years)

variable	1986-1990	1991-2000
GNP	7.7%	7.0%
GNP deflator	4.2	4.0
producers' durable equipment	8.7	7.0
nonresidential structures	7.2	7.0
economic profits	9.2	7.0